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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	
Keith A. Kozak et al.)	Examiner: Jagdish Patel
)	
Serial No.: 08/953,154)	Group Art Unit: 2835
)	
Filed: October 17, 1997)	Docket: 450.154US1
)	
For: MODULAR COMPUTER DEVICE AND COMPUTER KEYBOARD FOR MODULAR DEVICE)	

APPEAL BRIEF TO THE BOARD OF
PATENT APPEALS AND INTERFERENCES OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents
Washington, D.C. 20231

APPELLANTS' BRIEF ON APPEAL

This brief is presented in support of the Notice of Appeal mailed June 26, 2000, and received by the PTO mail room on June 29, 2000, from the Final Rejection of claims 1-11, 13-18, and 20-28 of the above identified application, as set forth in the Final Office Action mailed February 24, 2000. Twenty-six claims remain for consideration.

The Appeal Brief is filed in triplicate. **Please charge the requisite fee of \$310.00 as set forth in 37 C.F.R. § 1.17c to Deposit Account No. 50-0439.** Appellant reserves the right to submit a request for an oral hearing at a later time. Although other fees are not expected, Appellant authorizes the Examiner to charge or credit Deposit Account 50-0439 as necessary.

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TABLE OF CONTENTS



Page

1. REAL PARTY IN INTEREST	2
2. RELATED APPEALS AND INTERFERENCES.....	2
3. STATUS OF THE CLAIMS	2
4. STATUS OF AMENDMENTS	2
5. SUMMARY OF THE INVENTION	2
6. ISSUES PRESENTED FOR REVIEW	3
7. GROUPING OF CLAIMS.....	3
8. ARGUMENT	4
9. CONCLUSION.....	10
APPENDIX I - The Claims on Appeal	11

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1. REAL PARTY IN INTEREST

The present application has been assigned to Gateway 2000, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having an office and place of business at 610 Gateway Drive, P.O. Box 2000, North Sioux City, SD 57049-2000, in an assignment recorded on October 17, 1997, (Reel /Frame: 8781/0625).

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant which will have a bearing on the Board's decision in the present appeal.

3. STATUS OF THE CLAIMS

Claims 1-11, 13-18, and 20-28 are pending and are all presently at least twice rejected. These twenty-six claims are the subject of the present appeal (see Appendix I for a list of the claims on appeal).

4. STATUS OF AMENDMENTS

No Amendments have been filed subsequent to the February 24, 2000, Office Action. The claims are, therefore, in the form they were in after the Amendment and Response filed by Appellant on August 16, 1999. The claims listed in Appendix I reflect the claims as they currently exist.

5. SUMMARY OF THE INVENTION

The invention as claimed describes a keyboard for a computer having a communications link, such as a serial cable, and a connector. The connector is receptive to a corresponding connector of a device such as a PDA. The device communicates with the computer over the communications link when the connectors are coupled.

The keyboard in one embodiment includes an integrated cradle for the docking of modular devices such as PDA devices. A stand-alone cradle that consumes scarce desk-top real

estate is not necessary. Furthermore, in a preferred embodiment in which there is a single cable (such as a Universal Serial Bus cable) between the inventive keyboard and the computer to which it is coupled, an additional cable is not required for the cradle. This promotes easier cable management.

Furthermore, the invention as claimed describes a novel modular computer device operable in a docking mode when it is connected to a computer peripheral such as a keyboard, and in a stand-alone mode when it is not connected to the peripheral. The device includes a controller defining at least one changeable virtual key on a touch screen of the device. An integrated wireless transceiver permits the device to communicate with the computer when operating in the stand-alone mode.

The changeable virtual keys of the novel modular device in effect extend the capabilities of the keyboard when the device is docked to the keyboard. The keys, for example, may change depending on the application actively running on the computer, in which case they are effectively automatic customized function keys. When the device is operating in the stand-alone mode, it acts as a changing customizable (dynamic) remote control device for the computer.

6. ISSUES PRESENTED FOR REVIEW

1. Were claims 1-8, 10-11, 13-18, 20-22 and 24-28 properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson (U.S. Patent No. 4,762,435) in view of Appellant's allegedly admitted prior art (Specification page 1, lines 15-24 and page 2 lines 1-9)?
2. Were claims 9 and 23 properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson (U.S. Patent No. 4,762,435) in view of Appellant's allegedly admitted prior art (Specification page 1, lines 15-24 and page 2 lines 1-9) and further in view of Viletto (U.S. Patent No. 5,475,626)?

7. GROUPING OF CLAIMS

Although Appellant considers each pending claim to be separately patentable, and the claims do not stand or fall together, the rejections of the claims will be addressed in two groups

to mirror the Examiner's rejections: claims 1-8, 10-11, 13-18, 20-22 and 24-28; and claims 9 and 23.

8. ARGUMENT

I) Rejections under 35 U.S.C. § 103

a) The Applicable Law

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.* The M.P.E.P. contains explicit direction to the Examiner that agrees with the court in *In re Fine*:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d (BNA) 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. (BNA) 171, 174 (C.C.P.A. 1979)). However, the

level of skill is not that of the person who is an innovator but rather that of the person who follows the conventional wisdom in the art. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 474, 227 U.S.P.Q. (BNA) 293, 298 (Fed. Cir. 1985).

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. (BNA) 543, 551 (Fed. Cir. 1985). The Examiner can only rely on references which are either in the same field as that of the invention, or if not in the same field, must be "reasonably pertinent to the particular problem with which the inventor was concerned." *M.P.E.P.* § 2141.01 (a) (citing *In re Oetiker*, 24 U.S.P.Q.2d (BNA) 1443 at 1445). The Examiner must also recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 U.S.P.Q.2d (BNA) 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir. 1990). Finally, the Examiner must avoid hindsight. *Id.* The Examiner cannot use the Applicant's structure as a "template" and simply select elements from the references to reconstruct the claimed invention. *In re Gorman*, 933 F.2d 982, 987, 18 U.S.P.Q.2d (BNA) 1885, 1888 (Fed. Cir. 1991).

The Examiner is required to provide the best references and clearly describe how they include each of the elements in the claimed inventions.

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. *37 CFR 1.106(b)*.

In addition, the reference must be analogous art. The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A

reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."); and *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). While Patent Office classification of references and the cross-references in the official search notes are some evidence of "nonanalogy" or "analogy" respectively, the court has found "the similarities and differences in structure and function of the inventions to carry far greater weight." In *re Ellis*, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973).

b) Discussion of the Rejections

Claims 1-8, 10-11, 13-18, 20-22 and 24-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson (U.S. Patent No. 4,762,435) in view of Applicant's allegedly admitted prior art (Specification page 1, lines 15-24 and page 2 lines 1-9). Appellant submits that the Office Actions have not made a *prima facie* case for obviousness, because firstly, the combination fails to teach or disclose each and every limitation in Appellant's claims. Secondly, Appellant further submits that the combination of references is not proper, as they are directed to different purposes from each other. Thirdly, Appellant further submits that the references are not properly combinable, and even if, for purposes of argument alone, the references are combinable, a combination of the references is unsatisfactory and does not result in Appellant's claimed invention. Appellant will address each of the arguments in turn. As such, for all of these reasons, the rejection is improper.

i. The References Do Not Disclose Each And Every Element Of Applicant's Claims

With respect to claims 1-8, 10-11, 13-18, 20-22 and 24-28, Appellant's independent claims 1 recites "a communications link disposed within the housing, wherein the communications link is capable of communicating with a computer". Appellant's independent claims 17, 20, 22 and ~~24~~ each recite similar language. The Office Action asserts that Richardson discloses such a communications link; further asserting that Richardson's element 10 is a computer. Richardson's element 10 is in fact a lettering device, not a computer as in Appellant's

claims. Appellant has thoroughly and carefully reviewed Richardson, including performing an electronic scan, and can find no reference to a computer or computer equivalent (i.e. a processor, arithmetic logic unit, etc.). As a result, Richardson cannot and does not teach or suggest a communications link capable of communicating with a computer. Therefore the rejection of claims 1, 20, 22 and 24 is improper and should be withdrawn.

Claim 1 further recites “a connector operatively coupled to the communications link, said connector disposed within the housing and receptive to a corresponding connector of a device...” (emphasis added). Claim 17 recites similar language. The Office Action asserts that connector connected to cables 24 and 25 in Richardson teaches the recited language. Appellant submits that the Office Action incorrectly interprets Richardson. As is clearly shown in Figure 2 of Richardson, the cables 24 and 25 extend far beyond the housing 12. As a result, connectors attached to cables 24 and 25 are not disposed within the housing. Therefore, Richardson does not teach or suggest connectors disposed within the housing and the rejection is improper.

Claims 2-8, 10-11, and 13-16 depend from claim 1, claim 18 depends from claim 17, claim 21 depends from claim 20, and claims 25-28 depend from claim 24. It is respectfully submitted that the dependent claims are non-obvious for the same reasons as noted above with respect to their corresponding base claims (In re Fine; 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Therefore, the rejection of claims 2-8, 10-11, 13-16, 18, 21, and 25-28 is improper.

In addition, claims 14 and 26 recite virtual keys. These virtual keys “extend the capabilities of the keyboard when the device is docked to the keyboard. The keys, for example, may change depending on the application actively running on the computer, in which case they are effectively automatic customized function keys” (Specification page 3, lines 7-10). The cited references, including Appellant’s allegedly admitted prior art do not teach or suggest such virtual keys that extend the capabilities of the keyboard. The Office Action, at page 4 asserts that PDAs teach or suggest such keys. Appellant notes that the keys on the PDA affect the PDA only; they are not communicated to a computer via the connections in the keyboard as in Appellant’s claimed invention. In addition, claim 26 further recites that the keys are displayed “on the touch screen pursuant to instructions received from the computer.” A PDA does not teach or suggest virtual keys that are changed in response to instructions received from a computer separate from

the PDA device. Therefore the rejection of claims 14 and 26 is improper, and should be withdrawn.

Claims 9 and 23 were rejected under 35 USC § 103(a) as being unpatentable over the combination of Richardson et al (U.S. Patent No. 4,762,435) in view of Appellant's admitted prior art (page 1, lines 15-24 and page 2, lines 1-9) as applied to claims 1 and 23 above, and further in view of Viletto (U.S. Patent No. 5,475,626). As discussed above, claims 9 and 23 inherit the elements present in their respective base claims of "a communications link disposed within the housing, wherein the communications link is capable of communicating with a computer." As discussed above, Richardson does not teach or disclose the recited element. Moreover, Viletto also fails to teach or disclose the recited element. Because neither Richardson nor Viletto teach or disclose the element, the Office Action fails to present a *prima-facie* case of obviousness with respect to claims 9 and 23. Therefore the rejection of these claims is improper and should be withdrawn.

ii. There Is No Motivation to Combine the Cited References.

Even if Richardson and Appellant's allegedly admitted prior art disclosed all of the elements of Appellant's claimed invention, which is not admitted, there is no motivation to combine the references. There are a variety of reasons why there is no motivation to combine the references.

The Office Action makes the vague assertion that the motivation to combine the references is "to provide better communication between the devices in interactive or on-line mode via communication link" (Office Action, page 4). Thus the Office Action merely states a purported end result of the combination, and does not provide any rationale as to how or where the motivation to combine the references is found in the cited art that would achieve the end result. This suggests that hindsight reasoning has been used.

Furthermore, the cited reference is directed to solving a different problem than Appellant's claimed invention. Richardson is directed to integrating a printer component having a mechanical and electrical interface with a keyboard, producing a stand-alone lettering device. In contrast, Appellant's invention as claimed is directed to reducing the amount of desktop space

and reducing cable management problems associated with non-integral cradles for PDAs and other devices. One looking to solve the problem of reducing desk-top clutter by integrating devices within a computer keyboard would not be motivated to look at art related to lettering devices.

iii. Even If Combined, The Combination Is Unsatisfactory And Does Not Result In Appellant's Claimed Invention

In addition to the above, there is no motivation to combine Richardson and Appellant's allegedly admitted prior art, because the resulting combination has no utility. As discussed above, the lettering device in Richardson does not contain a computer of any sort, therefore there is nothing in the lettering apparatus for the device to communicate with. For example, there is no utility in having a telephone handset, a television remote control, or a PDA coupled to the electrical interface of Richardson's lettering apparatus.

Finally, there is no motivation to combine the references because Richardson is not analogous art. Here, both the classification of the art, and the function and structure of the reference support the fact that Richardson is non-analogous art. Richardson is classified in class 400, which covers typewriters. In contrast, Appellants application was assigned class 361, electrical systems and devices. As noted above, classification by the U.S. Patent and Trademark Office is evidence of non-analogous art. In addition, the function and structure of the art is different from Appellant's claimed invention. As discussed above, the function and structure of Richardson is directed to providing an electro-mechanical interface from a keyboard to a printing device, thereby forming a lettering device. In contrast, the function and structure of Appellant's invention as claimed is to provide a keyboard capable of receiving a device that communicates with a computer, such as Personal Digital Assistants and virtual key devices such that desktop space requirements and cable management efforts are reduced. Clearly these are different functions, and as a result Richardson is not analogous art.

9. CONCLUSION

For the above reasons, claims 1-8, 10-11, 13-18, 20-22 and 24-28 were not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson in view of Appellant's allegedly admitted prior art.

In addition, claims 9 and 23 were not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson in view of Appellant's allegedly admitted prior art and further in view of Viletto.

It is respectfully submitted that the art cited does not render the claimed invention obvious and that therefore the claimed invention does patentably distinguish over the cited art. It is respectfully submitted that claims 1-11, 13-18, and 20-28 should therefore be allowed. Reversal of the Examiner's rejections of claims 1-11, 13-18, and 20-28 is respectfully requested. Should the Board be of the opinion that a rejected claim may be allowable in amended form, an explicit statement to that effect is also respectfully requested.

Respectfully submitted,

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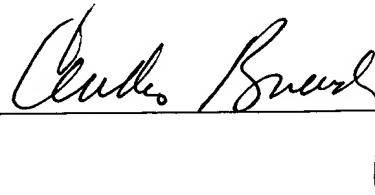
Date January 29, 2001

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: BOX AF, Commissioner of Patents, Washington, D.C. 20231, on this 29th day of January, 2001.

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Signature



APPENDIX I

The Claims on Appeal

1. A keyboard comprising:
 - a housing;
 - a plurality of keys disposed within the housing;
 - a communications link disposed within the housing, wherein the communications link is capable of communicating with a computer; and,
 - a connector operatively coupled to the communications link, said connector disposed within the housing and receptive to/a corresponding connector of a device such that the device communicates with the computer over the communications link when the connectors are coupled.
2. The keyboard of claim 1, wherein the housing has a plurality of surfaces defining a cradle cavity into which the connector is disposed, the cradle cavity shaped so that the device fits into the cavity such that at least one surface of the device is exposed.
3. The keyboard of claim 2, wherein the cradle cavity is shaped so that the device fits into the cavity such that at least a front surface of the device is exposed.
4. The keyboard of claim 2, wherein the cradle cavity is shaped so that the device fits into the cavity such that at least a top surface of the device is exposed.
5. The keyboard of claim 1, wherein the housing has an end surface into which the connector is disposed, the connector of the device coupling the connector of the housing such that at least one of a top surface and a bottom surface of the device is flush with a corresponding surface of the housing.
6. The keyboard of claim 1, wherein the communications link comprises at least a cable.

7. The keyboard of claim 6, wherein the cable is a Universal Serial Bus (USB)-compatible cable.
8. The keyboard of claim 6, wherein the communications link also comprises at least a radio frequency (RF) transceiver.
9. The keyboard of claim 1, further comprising a recharger operatively coupled to the connector of the keyboard to recharge a battery of the device when the connectors are coupled.
10. The keyboard of claim 1, further comprising a power source disposed within the housing.
11. The keyboard of claim 1, wherein the device is a personal digital assistant (PDA) device operable in a docking mode when the connectors are coupled and operable in a stand-alone mode when the connectors are uncoupled.
13. The keyboard of claim 1, wherein the device communicates with the computer in a docking mode when the connectors are coupled and in a stand-alone mode via a wireless transceiver of the device communicating with a corresponding wireless transceiver of the computer.
14. The keyboard of claim 1, wherein the device is a touch screen device having at least one changeable virtual key.
15. The keyboard of claim 1, wherein the device includes a power source.
16. The keyboard of claim 1, wherein the device is selected from the group of devices comprising a remote control for a television, a digital video disc (DVD) player, a compact disc (CD) player, and a telephone handset.
17. A keyboard comprising:
 - a housing;
 - Bsr* a plurality of keys disposed within the housing;
 - a communications link disposed within the housing to communicatively couple the *said* keyboard to the computer; and,

a communications link disposed within the housing, wherein the communications link is capable of communicating with a computer; and,

a connector disposed within the housing and receptive to a corresponding connector of a personal digital assistant (PDA) device such that the PDA device communicates with the computer over the communications link when the connectors are coupled.

18. The keyboard of claim 17, wherein the housing has a plurality of surfaces defining a cradle cavity into which the connector is disposed, the cradle cavity shaped so that the PDA device fits into the cavity such that at least one surface of the device is exposed.

20. A keyboard comprising:

a housing;

a plurality of keys disposed within the housing;

a communications link disposed within the housing, wherein the communications link is capable of communicating with a computer; and,

a connector disposed within the housing and receptive to a corresponding connector of a device having a touch screen such that the device communicates with the computer over the communications link when the connectors are coupled.

21. The keyboard of claim 20, wherein the housing has an end surface into which the connector is disposed, the connector of the device coupling the connector of the housing such that at least one of a top surface and a bottom surface of the device is flush with a corresponding surface of the housing.

22. A computerized system comprising:

a computer having at least a processor, a memory and a first wireless transceiver;

a device having a second wireless transceiver communicatively coupling the device to the computer in a stand-alone mode; and,

a keyboard having a plurality of keys, a communications link communicatively coupling the keyboard to the computer, and a connection removably coupling the device to the keyboard in a docking mode,

wherein the device communicates with the computer over the communications link when in the docking mode and via the first and the second wireless transceivers when in the stand-alone mode.

23. The computerized system of claim 22, wherein the keyboard includes a recharger to recharge a battery of the device when in the docking mode.

24. A device operable in a docking mode and in a stand-alone mode comprising:

- a housing;
- ^{B52} a touch screen disposed within the housing;
- a controller to display at least one changeable virtual key on the touch screen; and,
- a connector operatively coupled to the controller; wherein the connector is capable of removably coupling to a computer peripheral in the docking mode.

25. The device of claim 24, further comprising a wireless transceiver to communicatively couple the device to a computer operatively coupled to the computer peripheral in the stand-alone mode.

26. The device of claim 24, wherein the controller displays the at least one changeable virtual key on the touch screen pursuant to instructions received from the computer, via the wireless transceiver in the stand-alone mode and through the computer peripheral in the docking mode.

27. The device of claim 24, wherein the computer peripheral is a computer keyboard.

28. The device of claim 24, wherein the device further includes a rechargeable battery capable of being recharged in the docking mode by a corresponding recharger of the computer peripheral.